Document details

Journal of High Energy Physics Open Access
Volume 2018, Issue 12, 1 December 2018, Article number 117

Event shape variables measured using multijet final states in proton - proton collisions at √ s = 13 TeV (Article) (Open Access)

Sirunyan, A.M.[a], Tumasyan, A.[a], Adam, W.[b], Ambrogi, F.[b], Asilar, E.[b], Bergauer, T.[b], Brandstetter, J.[b], Dragicevic, M.[b], Erö, J.[b], Escalante Del Valle, A.[b], Flechl, M.[b], Frühwirth, R.[b,gv], Ghete, V.M.[b], Hrubec, J.[b], Jeitler, M.[b,gv], Krammer, N.[b], Krätschmer, I.[b], Liko, D.[b], Madlener, T.[b], Mikulec, I.[b], Rad, N.[b],

View additional authors

[a]Yerevan Physics Institute, Yerevan, Armenia
[b]Institut für Hochenergiephysik, Wien, Austria
[c]Institute for Nuclear Problems, Minsk, Belarus

View additional affiliations

Abstract

View references (42)

The study of global event shape variables can provide sensitive tests of predictions for multijet production in proton - proton collisions . This paper presents a study of several event shape variables calculated using jet four momenta in proton - proton collisions at a centre-of-mass energy of 13 TeV and uses data recorded with the CMS detector at the LHC corresponding to an integrated luminosity of 2.2 fb^{-1}. After correcting for detector effects, the resulting distributions are compared with several theoretical predictions. The agreement generally improves as the energy, represented by the average transverse momentum of the two leading jets, increases.[Figure not available: see fulltext.] © 2018, The Author(s).

SciVal Topic Prominence

Topic: jets | production | parton shower

Prominence percentile: 99.875

Author keywords

Hadron-Hadron scattering (experiments) Jet physics Jets

Funding details

Funding sponsor	Funding number	Acronym
California Earthquake Authority		
Secretaría de Educación Superior, Ciencia, Tecnología e Innovación		SENESCYT
Fundação Carlos Chagas Filho de Amparo à Pesquisa do Estado do Rio de Janeiro		FAPERJ